

Application No. 10/009,607
Reply dated July 11, 2005
Response to Office Action dated April 11, 2005

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 - 2. (Cancelled)

3. (Previously Presented) A composition useful as an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors comprising a compound or pharmaceutically acceptable salt thereof claimed in claim 35 as the active ingredient, and a carrier or excipient.

4. (Previously Presented) A composition according to claim 3, wherein said activators are agonists or modulators at $\alpha 4\beta 2$ nicotinic acetylcholine receptors.

5. (Previously Presented) A medicament for treating cerebral circulation diseases comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

6. (Previously Presented) A medicament for treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

7. (Original) The medicament according to claim 6, wherein said neurodegenerative disease is Alzheimer's disease or Parkinson's disease, said dementia is cerebrovascular dementia, said motor ataxia is Tourette's syndrome, and said neuropathy and mental disease is neurosis during chronic cerebral infarction stage, anxiety or schizophrenia.

8. (Previously Presented) A medicament for improving cerebral metabolism, neurotransmission functional disorder and memory disorder, or for providing analgesic effect, which comprises an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

9. (Previously Presented) A medicament for treating inflammatory intestinal diseases comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

10. (Previously Presented) A method of activating $\alpha 4\beta 2$ nicotinic acetylcholine receptors in a patient comprising administering an effective amount of a compound as claimed in claim 35 to said patient.

11. (Previously Presented) A method of treating cerebral circulation diseases which comprises administering an effective amount of an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

12. (Previously Presented) A method of treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease which comprises administering an effective amount of an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

13. (Original) The method according to claim 12, wherein said neurodegenerative disease is Alzheimer's disease or Parkinson's disease, said dementia is cerebrovascular dementia, said motor ataxia is Tourette's syndrome, and said neuropathy and mental disease is neurosis during chronic cerebral infarction stage, anxiety, or schizophrenia.

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14. (Previously Presented) A medicament for treating cerebral circulation diseases comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

15. (Previously Presented) A medicament for treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

16. (Previously Presented) The medicament according to claim 15, wherein said neurodegenerative disease is Alzheimer's disease or Parkinson's disease, said dementia is cerebrovascular dementia, said motor ataxia is Tourette's syndrome, and said neuropathy and mental disease is neurosis during chronic cerebral infarction stage, anxiety or schizophrenia.

17. (Previously Presented) A medicament for improving cerebral metabolism, neurotransmission functional disorder and memory disorder, or for providing analgesic effect, which comprises an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

18. (Previously Presented) A medicament for treating inflammatory intestinal diseases comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

19. (Previously Presented) A method of treating cerebral circulation diseases which comprises administering an effective amount of an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

20. (Previously Presented) A method of treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease which comprises administering

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an effective amount of an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

21. (Previously Presented) The method according to claim 20, wherein said neuro-degenerative disease is Alzheimer's disease or Parkinson's disease, said dementia is cerebrovascular dementia, said motor ataxia is Tourette's syndrome, and said neuropathy and mental disease is neurosis during chronic cerebral infarction stage, anxiety or schizophrenia.

22. (Previously Presented) A composition according to claim 3, wherein the carrier or excipient comprises a pharmaceutically acceptable carrier or excipient for oral or parenteral administration.

23. (Previously Presented) A composition according to claim 22, wherein said carrier or excipient is selected from the group consisting of polyvinyl pyrrolidone, gum arabic, gelatin, sorbitol, cyclodextrin, magnesium stearate, talc, polyethylene glycol, polyvinyl alcohol, silica, lactose, crystalline cellulose, sugar, starch, calcium phosphate, vegetable oil, carboxymethyl-cellulose, hydroxypropylcellulose, sodium lauryl sulfate, water, ethanol, glycerol, mannitol, syrup and mixtures thereof.

24. (Previously Presented) A composition according to claim 23 in unit dosage form.

25. (Previously Presented) A composition according to claim 22, wherein said carrier is an isotonic solution.

26. (Previously Presented) A method according to claim 10, comprising administering said compound orally.

27. (Previously Presented) A method according to claim 26, wherein said effective amount is about 0.001-1,000 mg/kg body weight.

28. (Previously Presented) A method according to claim 27, wherein said effective amount is 0.01-100 mg/kg body weight.

29. (Previously Presented) A method according to claim 28, wherein said effective amount is 0.1-10 mg/kg body weight.

30. (Previously Presented) A method according to claim 10, comprising administering said compound parenterally.

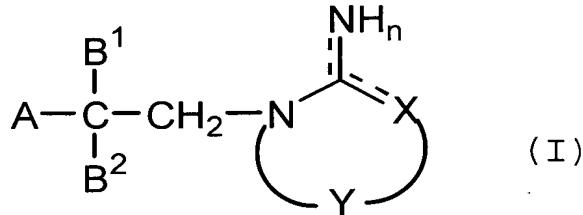
31. (Previously Presented) A method according to claim 30, wherein said effective amount is about 0.00001-10 mg/kg body weight, from one to three times per day.

32. (Previously Presented) A method according to claim 31, wherein said effective amount is 0.001-1 mg/kg body weight.

33. (Previously Presented) A method according to claim 32, wherein said effective amount is 0.001-0.1 mg/kg body weight.

34. (Previously Presented) The compound according to claim 35, wherein the pharmaceutically acceptable salt is a salt of hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid, fumaric acid, maleic acid, oxalic acid, citric acid, tartaric acid, malic acid, lactic acid, succinic acid, benzoic acid, methanesulfonic acid, and p-toluenesulfonic acid.

35. (Currently amended) A compound represented by formula (I):



wherein:

A is an optionally substituted aryl group or optionally substituted heterocyclic group selected from the group consisting of thiophene, furan, pyran, pyrrole, pyrazole, pyridine, pyrimidine, pyrazine, pyridazine, imidazole, oxazole, isoxazole, thiazole, isothiazole, quinoline, isoquinoline, indole, azaindole and tetrahydropyrimidine;

B^1 and B^2 are each a hydrogen atom;

~~the dotted line shows either the presence or absence of a bond;~~

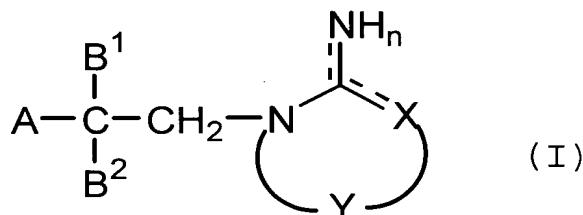
~~n is an integer of 1 or 2; and~~

~~the group $-\text{Y}-\text{X}-$ is $-\text{C}(\text{R}^7)=\text{C}(\text{R}^8)-\text{N}=$,~~

wherein R^7 and R^8 are independently selected from the group consisting of hydrogen atom, halogen atom, optionally substituted alkyl group, optionally substituted aryl group, and optionally substituted heterocyclic group;

or a pharmaceutically acceptable salt thereof.

36. (Currently Amended) A compound represented by formula (I),



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wherein:

A is an optionally substituted aryl group or optionally substituted heterocyclic group selected from the group consisting of thiophene, furan, pyran, pyrrole, pyrazole, pyridine, pyrimidine, pyrazine, pyridazine, imidazole, oxazole, isoxazole, thiazole, isothiazole, quinoline, isoquinoline, indole, azaindole and tetrahydropyrimidine;

B¹ and B² are each a hydrogen atom;

~~the dotted line shows either the presence or absence of a bond;~~

n is an integer of 1 or 2; and

the group -Y-X- is -C(R⁷)=C(R⁸)-N=,

wherein R⁷ and R⁸ are independently selected from the group consisting of hydrogen atom, halogen atom, optionally substituted alkyl group, optionally substituted aryl group, and optionally substituted heterocyclic group;

wherein the compound is selected from:

2-amino-1-[2-(6-chloro-3-pyridyl)ethyl]imidazole;

2-amino-1-[2-(6-methyl-3-pyridyl)ethyl]imidazole;

2-amino-1-[2-(5,6-dichloro-3-pyridyl)ethyl]imidazole;

2-amino-1-[2-(3-pyridyl)ethyl]imidazole;

2-amino-1-[2-(4-chlorophenyl)ethyl]imidazole;

2-amino-1-[2-(2-pyridyl)ethyl]imidazole;

2-amino-1-[2-(4-pyridyl)ethyl]imidazole;

2-amino-1-[2-(6-chloro-3-pyridyl)ethyl]-4,5-dimethylimidazole;

2-amino-1-[2-(2-chloro-5-thiazolyl)ethyl]imidazole;

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2-amino-1-[2-(5-bromo-3-pyridyl)ethyl]imidazole;

2-amino-1-[2-(4-hydroxyphenyl)ethyl]imidazole;

2-amino-1-[2-(5-methyl-3-pyridyl)ethyl]imidazole;

2-amino-1-[2-(5-pyrimidyl)ethyl]imidazole;

2-amino-1-[2-(3-pyridazinyl)ethyl]imidazole;

2-amino-1-[2-(2-pyrazinyl)ethyl]imidazole;

2-amino-1-{2-[2-(4-hydroxyphenyl)thiophenyl]ethyl}imidazole;

2-amino-1-{2-[2-(4-methoxyphenyl)thiophenyl]ethyl}imidazole;

2-amino-1-[2-(4-pyridazinyl)ethyl]imidazole;

2-amino-1-[2-(4-chloro-5-pyrimidyl)ethyl]imidazole;

or a pharmaceutically acceptable salt thereof.